

Functional Devices RIB01SBDC

Functional Devices RIB01SBDC Enclosed Relay Instruction Manual

1. INTRODUCTION

This manual provides essential instructions for the safe and effective installation, operation, and maintenance of the Functional Devices RIB01SBDC Enclosed Relay. This device is designed for reliable control applications requiring a Class 2 dry contact input and a 120Vac normally open relay output.

2. SAFETY INFORMATION

WARNING: Electrical shock hazard. Installation and servicing should only be performed by qualified personnel. Disconnect power before installing or servicing this device. Adhere to all local and national electrical codes.

- Ensure all wiring is correctly terminated and insulated.
- Verify power supply voltage matches the device's specifications.
- Do not exceed the specified contact ratings.
- Protect wiring from physical damage.

3. PRODUCT OVERVIEW

The RIB01SBDC is an enclosed relay designed for robust performance in various industrial and commercial control systems. It features a Class 2 dry contact input for activation and provides a normally open (NO) relay output capable of switching 120Vac loads. Its compact design and panel mount capability make it suitable for diverse installations.



Figure 1: Functional Devices RIB01SBDC Enclosed Relay. The label on the device details low-voltage dry-contact input wires (White/Blue & White/Red), power input wires (Black 120V, Red Neutral or other phase), relay contact wires (2 Orange Wires), and contact ratings. A switch is visible with positions for CLOSED, OPEN, and AUTO. The bottom shows the conduit connection with orange and white wires.

4. SETUP AND INSTALLATION

4.1 Mounting

The RIB01SBDC relay is designed for panel mounting. Secure the device using appropriate fasteners through the mounting tabs located on the enclosure. Ensure the mounting surface is stable and free from excessive vibration.

4.2 Wiring Instructions

Refer to the wiring diagram on the device label and the following instructions. All connections should be made with power disconnected.

- **Low-Voltage Dry-Contact Input Wires:**
 - White/Blue & White/Red (Class 2 wiring): Connect these wires to your low-voltage dry contact control device. The relay will activate when the dry contact is closed.

- **Power Input Wires:**

- BLACK: Connect to 120Vac Line.
- RED: Connect to Neutral or other phase (for 120Vac operation).
- The device consumes approximately 52mA at 120Vac.

- **Relay Contact Wires:**

- 2 Orange Wires: These are the Normally Open (NO) relay contacts. Connect these wires in series with the load you wish to control. When the relay is activated, these contacts will close, supplying power to the load.

4.3 Switch Settings

The device features a switch with three positions:

- **CLOSED:** Forces the relay contacts to the closed position, providing continuous power to the controlled load, regardless of the dry contact input.
- **OPEN:** Forces the relay contacts to the open position, preventing power from reaching the controlled load, regardless of the dry contact input.
- **AUTO:** Allows the relay to operate based on the low-voltage dry contact input. The relay contacts will close when the dry contact input is closed, and open when the dry contact input is open.

5. OPERATING INSTRUCTIONS

Once properly installed and wired, ensure the switch is set to the "AUTO" position for normal operation. The relay will then respond to the state of the connected low-voltage dry contact input. When the dry contact closes, the relay will energize, closing its normally open contacts and activating the connected load. When the dry contact opens, the relay will de-energize, opening its contacts and deactivating the load.

Use the "CLOSED" or "OPEN" switch positions for manual override or testing purposes, as needed.

6. MAINTENANCE

The Functional Devices RIB01SBDC relay is designed for minimal maintenance. Periodically inspect the device and its wiring for any signs of wear, damage, or loose connections. Ensure the enclosure is free from dust and debris. No user-serviceable parts are inside the sealed enclosure.

7. TROUBLESHOOTING

- **Relay not activating:**

- Check if the switch is in the "AUTO" position.
- Verify that the low-voltage dry contact input is properly closing.
- Ensure 120Vac power is supplied to the BLACK and RED input wires.
- Inspect all wiring for loose connections or breaks.

- **Load not receiving power when relay is active:**

- Confirm the load itself is functional.
- Check connections to the orange relay contact wires.
- Verify the load's current and voltage requirements do not exceed the relay's contact ratings.

- **Device appears damaged or overheated:**

- Immediately disconnect power.
- Do not attempt to repair. Contact Functional Devices support.

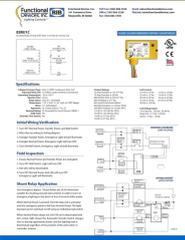
8. SPECIFICATIONS

Feature	Specification
Model	RIB01SBDC
Input Type	Low-Voltage Dry Contact (Class 2)
Power Input	120Vac, 52mA
Relay Contact Type	Normally Open (NO)
Contact Material	Silver
Connector Type	Screw (for conduit connection)
Mounting Type	Panel Mount
Dimensions	3 x 2 x 2 inches (approximate, based on package dimensions)
Weight	8.48 ounces (approximate, based on package weight)
Contact Ratings:	
Resistive	20 A @ 277 Vac
Ballast NO	20 A @ 120/277 Vac
Ballast NC	10 A @ 120/277 Vac
Tungsten NO	10 A @ 120 Vac
Motor (HP)	1 HP @ 120 Vac, 2 HP @ 277 Vac
Pilot Duty	770VA @ 120Vac, 1110VA @ 277Vac

9. WARRANTY AND SUPPORT

For warranty information, technical support, or further inquiries, please visit the official Functional Devices website: www.functionaldevices.com. Please have your product model number (RIB01SBDC) available when contacting support.

Related Documents - RIB01SBDC

	<p>Functional Devices RIB Relays: RITBTW2401B-BC and RITBTW2402B-BC Network Compatible Relay Datasheet</p> <p>Technical specifications and wiring diagrams for Functional Devices' RITBTW2401B-BC and RITBTW2402B-BC enclosed BACnet MS/TP Network Relay Devices. Includes contact ratings, power input, network media, and DIP switch configurations.</p>
	<p>Functional Devices B3175 Mini Inverter Series: Installation and Operation Manual</p> <p>Comprehensive installation and operation guide for the Functional Devices B3175 Mini Inverter Series, covering models EMPS55125, EMPS110125, EMPS110250, and EMPS220250. Includes safety precautions, specifications, mounting, wiring, and maintenance instructions.</p>
	<p>ESRB and ESRN Installation & Safety Instructions Functional Devices</p> <p>Comprehensive installation, safety, operation, and troubleshooting guide for Functional Devices ESRB and ESRN emergency lighting control modules. Includes wiring diagrams, specifications, and application examples.</p>
	<p>Functional Devices RIB24P-FA Fire Alarm Relay Datasheet and Terms of Sale</p> <p>Detailed specifications, contact ratings, coil information, and comprehensive terms and conditions of sale for the Functional Devices RIB24P-FA enclosed 20 Amp DPDT fire alarm relay.</p>
	<p>ESRU1C Enclosed Relay: Specifications, Wiring, and Application Guide</p> <p>Detailed guide for the Functional Devices ESRU1C enclosed relay, covering specifications, initial wiring verification, field inspection, and shunt relay application for emergency lighting systems.</p>